

# THE WHITE PALACE, PROTECTING CULTURAL HERITAGE OF SWAT

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# THE WHITE PALACE

Protecting cultural heritage of swat

## 1 ABSTRACT:

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Cultural buildings are nation's heritage .It is a fundamental necessity to protect it and enhance its lifetime. White palace is a cultural heritage of valley Swat and reflection of its rulers in their reign. This precious heritage was effected by 2010 floods which caused the damage of some of the parts of White Palace. This paper covers the analytical study of the buildings structure and program and to prepare a mitigation plan that best suits the particular situation regarding a similar case study and the steps taken in that case. Further production of a first aid plan improvising the emergency situations of conflicts.to make the heritage secure and protected from threats and conflicts as maximum as possible.



## 2 INTRODUCTION:

Swat white palace is artistic blend of history, culture supremacy and remarkable architectural master piece. Constructed with the maiden name of Swati Taj Mahal in the early 1940s, the building has since been rechristened Safaid Mahal (White Palace). It is located in Murghazar in Swat Valley, at a distance of about 15 kilometers from the center, Saidu Sharif. It was built by the first Wali of Swat Miangul Abdul Wadood as a summer residence. He was astounded by the scenery the place offered, and would shift all the government structure here during the summers too. Currently, it serves as a luxury hotel; and is popular among those visiting Swat.

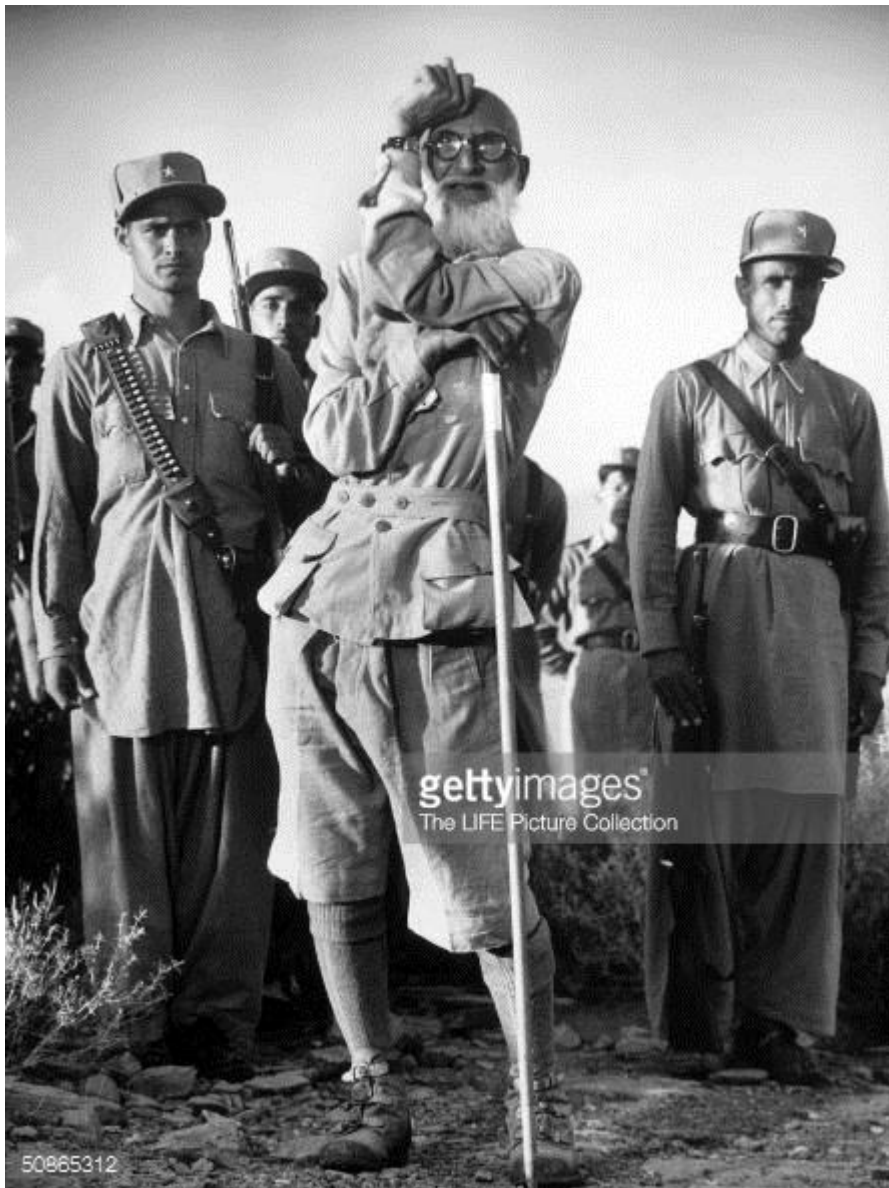
Marghazar, literal meaning greenland, is really so with green valleys, splendid mountains, pleasing atmosphere, cold water springs, fragrance of flowers, prettiness of hanging fruits, etc. Its good looks are further enhanced by White Palace and the myths of mount Elam mystify it. A magnificent matchless meadow of Marghazar multiplied by mammoth, mystifying mountains and marvelous marble mansion—make mode of a man mellow.



### 2.1 HISTORICAL BACKGROUND:

In 1941, a beautiful palace of white stone was erected which was first named Swatti Taj Mahal, later Motti Mahal and now Sufed Mahal(White Palace). Then it was

enriched with selective fauna and flora that made it mini zoo as well as mini botanical garden. Miangul Abdul Wadood alias Badshah sahab, had decided in 1935 to construct a royal summer house here. The White Palace at Marghazar was the summer residence of the Wali of Swat, Jehanzeb. The palace, built in 1940 by the first king of the Swat Valley, Mian Gul Abdul Wadood, also played host to Queen Elizabeth. Located at 7,000 feet above sea level on Marghazar Hill, it was later converted into a tourist resort.



Miangul Abdul Wadood



Queen Elizabeth.

## 2.2 ARCHITECTURE:

“It was the first structure in the whole region constructed on Victorian architecture. It has a multilayered roof, starting from a bronze layer to the wooden layer of deodar tree, lime layer, mud layer, and again a deodar layer with an iron layer to the outer top.”

AR.SHAUKAT SHARAR

Its bronze, used in the upper ceiling, was taken from Belgium, and its artisan from Empire of Turkey. Its ceiling fans and its electrical equipment were imported from then British Empire, and they’re all still getting along well. Chuna (lime) is used as binding material in place of cement. It is so compact to be drilled. The height of ceiling is 30-35ft to give extra strength and ward off heat. Ceiling fans were imported and installed in 1941 and are still working.

## 2.3 DESTRUCTION BY FLOODS (2010):

Before the insurgency in Swat, tourists of many nationalities would visit Swat to enjoy the picturesque views and calming effect of the valley. With most the roads in



Swat washed away, the Marghazar valley was the only place that was accessible to tourists. Famous for the Sufaid Mahal (White Palace).

The floods hit the white palace and destroying one portion of the hotel and left it devastated.





### 3 ANALYTICAL STUDY:

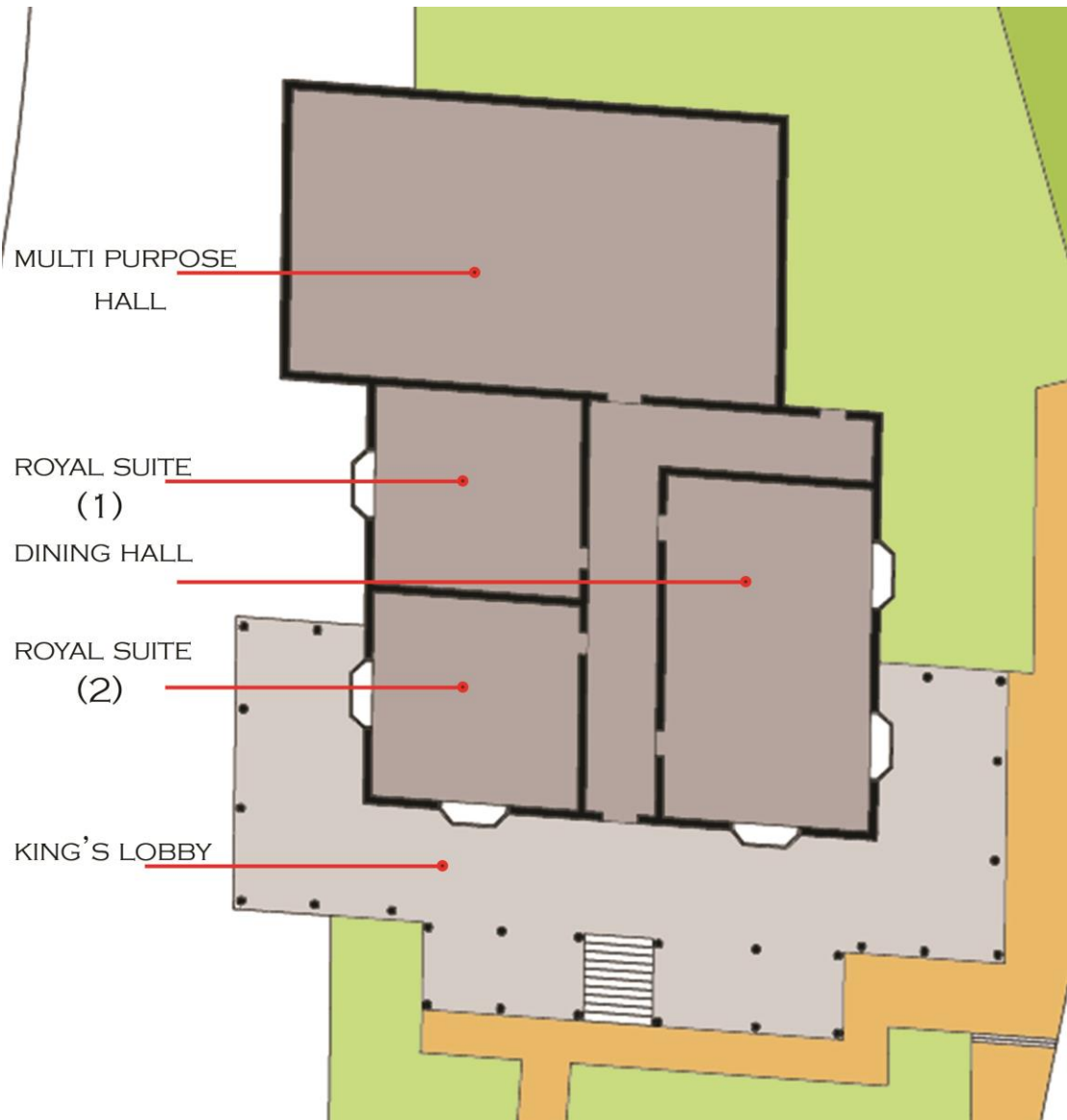
#### 3.1 MASTERPLAN



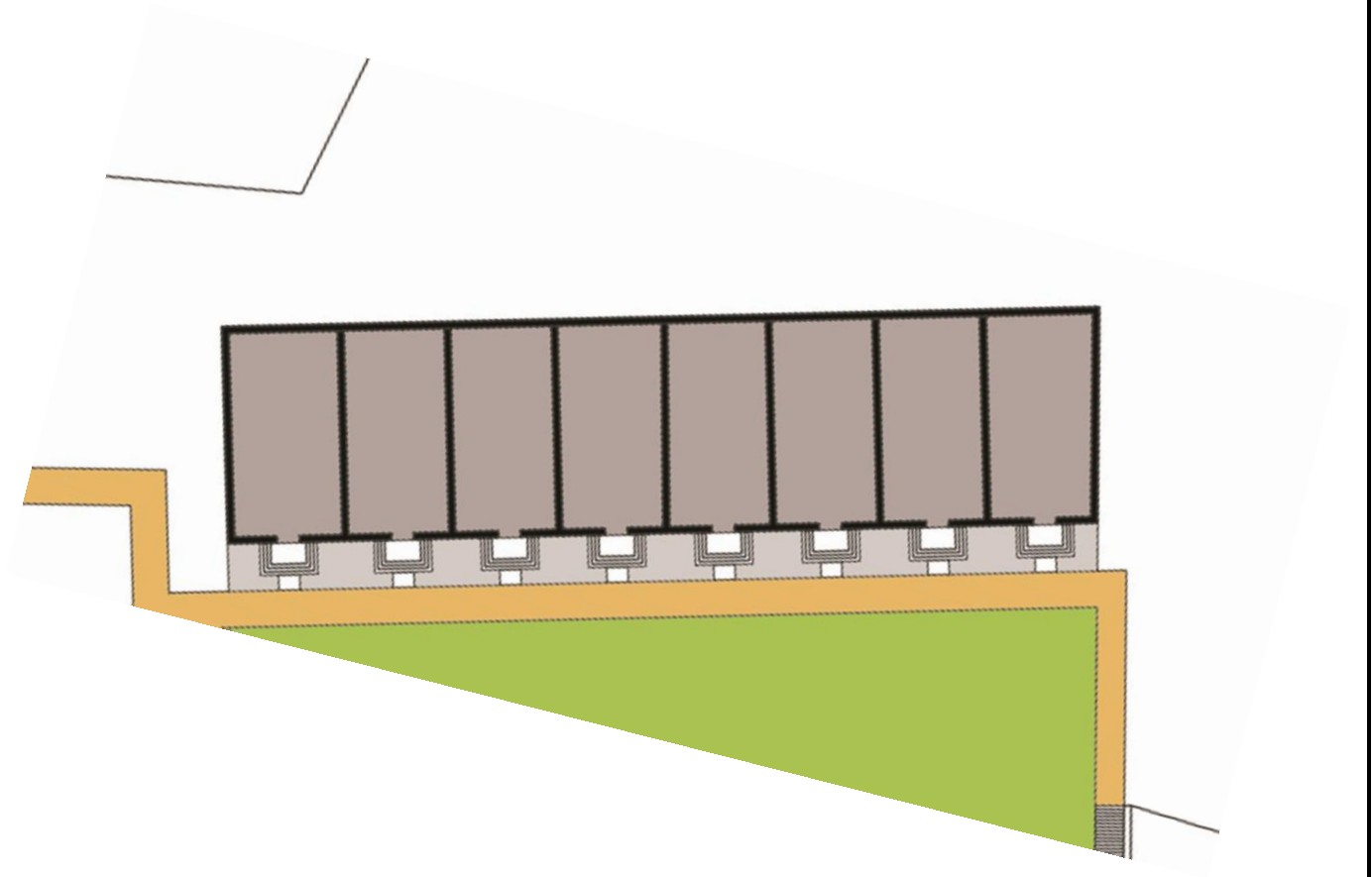
1. Starting from main entrance follows with car parking, Next to car parking is located the main lawn (garden).
2. Attach with the garden on south side is the main hotel building and west are First set of rooms
3. There are 24 beautiful big rooms in palace and the big one royal room
4. It have two big conference halls
5. There is a kings entry way

### 3.1.1 FLOOR PLANS:

#### 3.1.1.1 MAIN BUILDING FLOOR PLAN



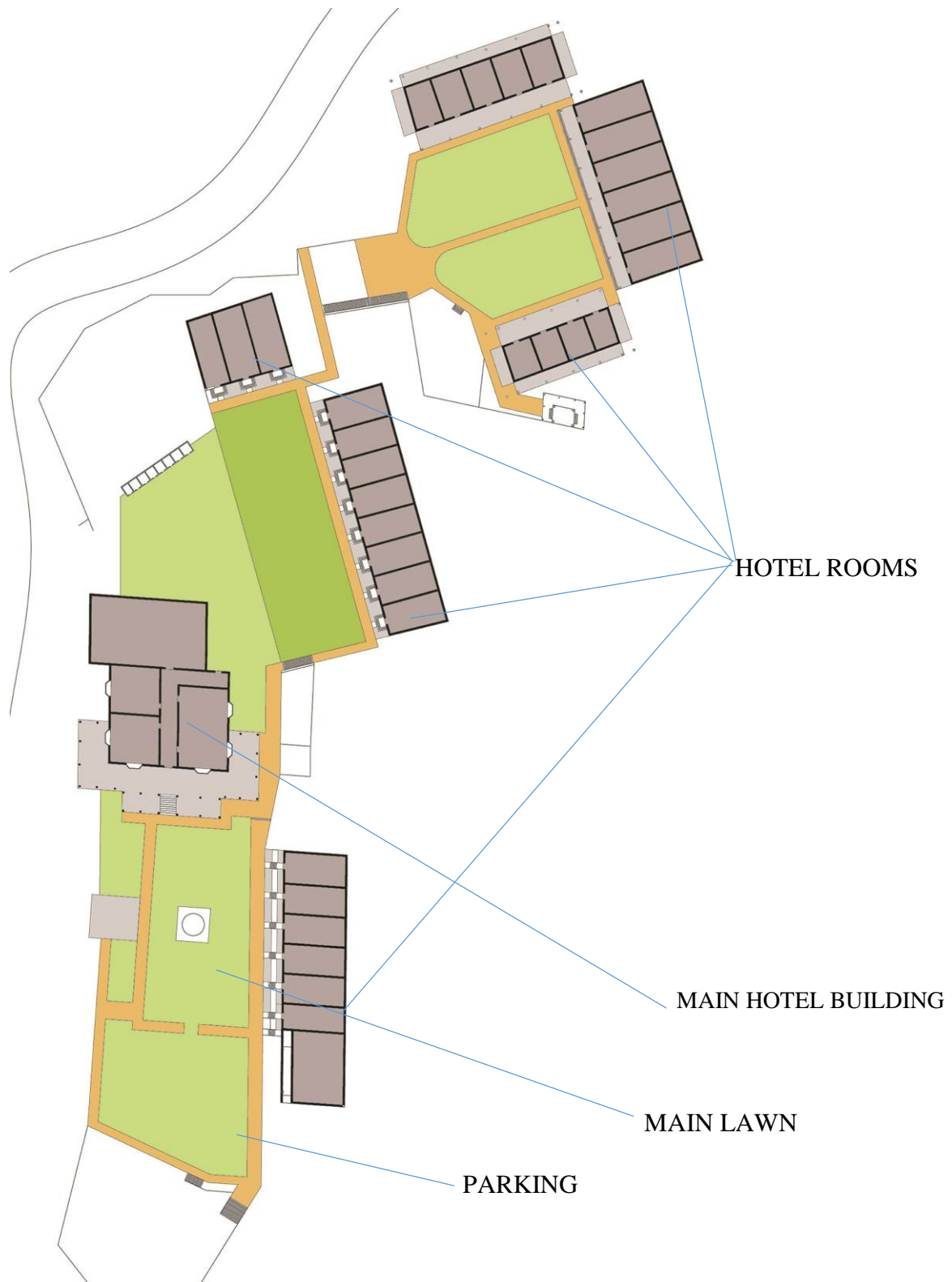
### 3.1.1.2 ROOMS FLOOR PLAN



#### **SPACES DESCRIPTION:**

- 24 well decorated rooms
- Prince block 8
- Queen blocks 12 with balcony having 12 marble benches and tables
- 4 servant room
- 1 royal suite
- 2 big conference hall
- Kings lobby
- mini zoo
- Lawns
- Dining hall

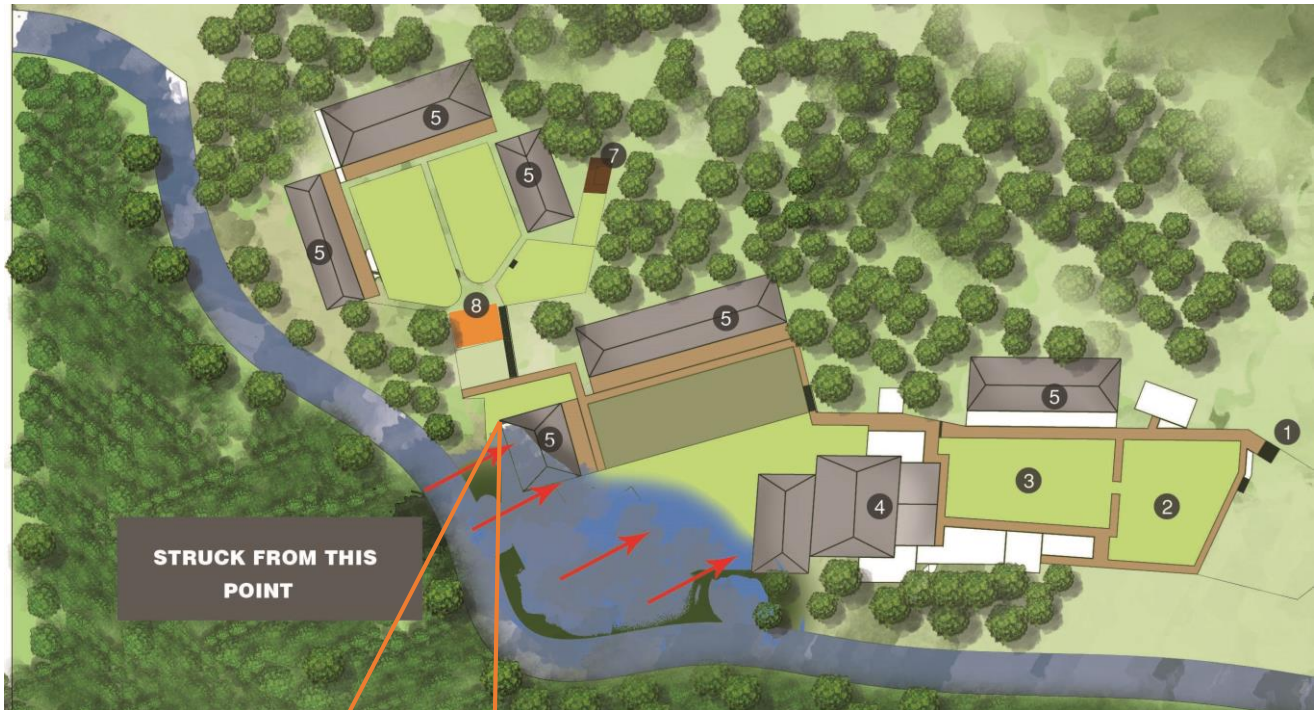
### 3.2 OVERALL PLANNING





### 3.3 AFTER FLOOD SCENARIO:

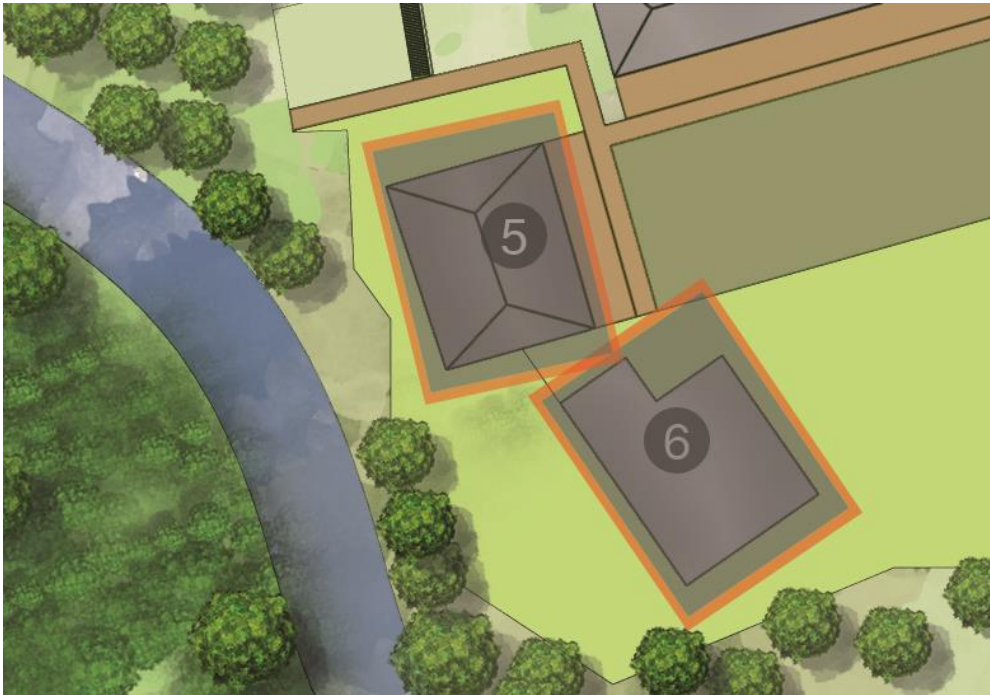
In 2010 heavy floods struck the hotel and damaged two parts of the building which got relocated and rebuild. It just rained for four hours and a huge torrent of water came that rose to 3 ft level at the palace.



Flood in 2010 washed away the backside of the palace having

- Water bank
- Bridge
- Washrooms
- A small lawn

### 3.3.1.1 The two effected buildings



The hall was relocated to new place near the main hotel building:





## 4 CASE STUDY:

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### 4.1 BURNHAM HALL, LINCOLN VERMONT'S COMMUNITY CENTER:

Overview Burnham Hall, Lincoln Vermont's community center, was built in the 1920s within 10 feet of the New Haven River. On average, it has flooded once every 12 years. In 1998, after the hall flooded with over five feet of water, the library had to be relocated. As the waterlogged books were being moved from the lower floor, Harriet Brown, a long-time Lincoln resident, rallied the community to support a project to protect Burnham Hall from future floods.

A volunteer community group obtained a grant from the Agency of Natural Resources to study how to relocate or retrofit the building. The goal was to "live with the river for the next 100 years." After reviewing the report, the committee decided to incorporate flood proofing techniques with a Hazard Mitigation grant from the State of Vermont and the Federal Emergency Management Agency (FEMA).



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The flood defenses of the building included five significant construction elements.

#### 4.1.1 Floor resistant to hydrostatic pressure.

The floor of the newly constructed part of the building is an 11” thick concrete slab – heavy enough to resist buckling from rising groundwater. The weight of the concrete, plus specifically designed reinforcements, contribute to its strength. In the renovated portion of the building, 6” of concrete was added to the existing slab (with 2” of rigid insulation in between) for the same purpose. A reinforced sump pump was put into the floor to contain water entering the building when flood barriers were breached.

#### 4.1.2 High perimeter wall.

The height of foundation wall was increased three feet above the floor slab. Fortunately, the original garage building also had a high foundation wall providing a flood barrier at that section of the building. The perimeter wall protects against high water. The riverbanks outside of this corner was also strengthened with heavy stones.

#### 4.1.3 Impact protection.

The southwest corner, closest to the brook and facing upstream, was the most susceptible to impact from debris carried by a flooding river. All other flood control measures would be ineffective if the perimeter wall was damaged by a floating tree trunk. To reduce this threat, an eight ton block of concrete, reinforced with steel bars, was constructed into this corner of the building.

#### 4.1.4 Water resistant materials.

Flood control assumes that some water may get in. Therefore, there is a need to reduce the damage if it does. To this end, all the gypsum wallboard – a material that absorbs water – was removed and cement board was installed one foot above floor level. The cement board retains its integrity when wet, and it does not wick water up into other parts of the wall, which often causes mildew.

#### 4.1.5 Floodgates.

Finally, the five doorways had to be protected from floodwaters. The solution was inexpensive and effective: flood gates were made for each door, the gates consisting of ¼” thick aluminum sheets that slide into tracks at each side of the door frame, and tighten against gaskets with a set of thumbscrews. The gates are located inside rather than outside to allow the doors to swing outwards and let people out.



## 5 COMPARATIVE ANALYSIS:

The case study is selected on the basis of similarities on factors like building style, building type and facing threats (floods).

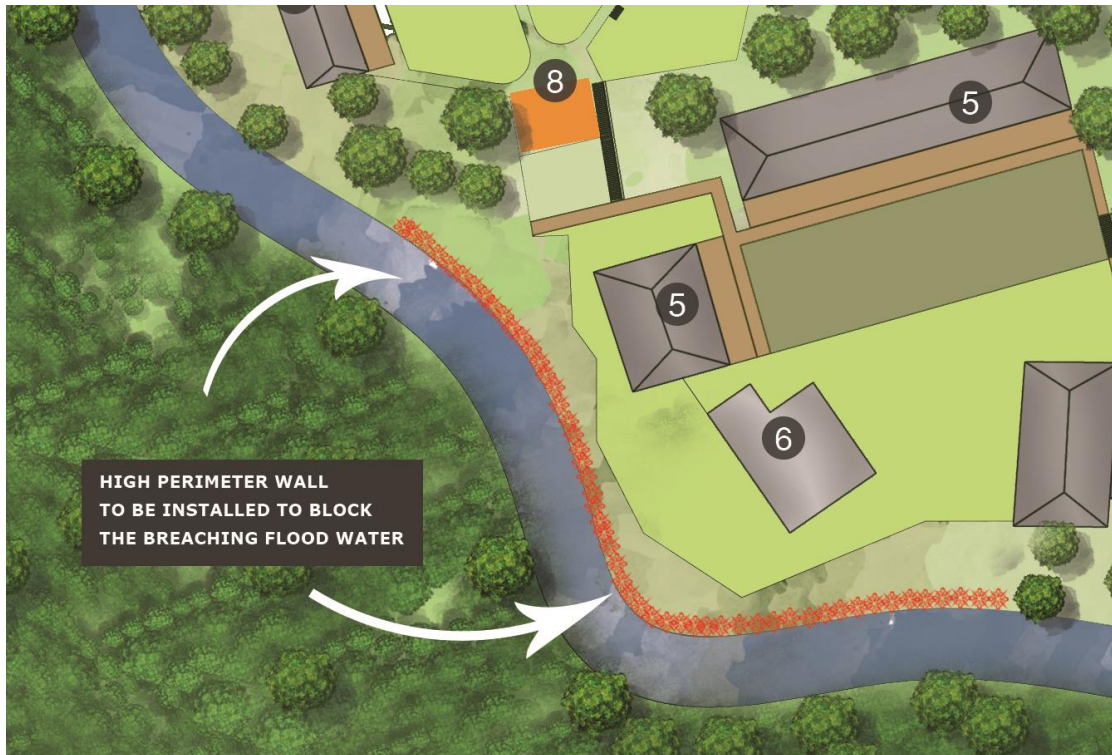
### 5.1 COMPARATIVE ANALYSIS TABLE:

DESCRIPTION	BURNHAM HALL	WHITE PALACE
BUILDING TYPE	HOTEL	HOTEL
LOCATION	NEW HAVEN,CONNECTICUT	MARGHAZAR,SWAT
TIMELINE	1920'S	1940'S
ARCHITECTURE STYLE	GEORGION	VICTORIAN
THREATS	FLOOD	FLOOD
MITIGATION	MAXIMUM	NONE
MITIGATION STEPS	Floor resistant to hydrostatic pressure, High perimeter wall. Impact protection. Water resistant materials Floodgates.	RELOCATION OF SOME BUILDING SPACES TO SAFER LOCATIONS

## 6 RISK MITIGATION PLAN:

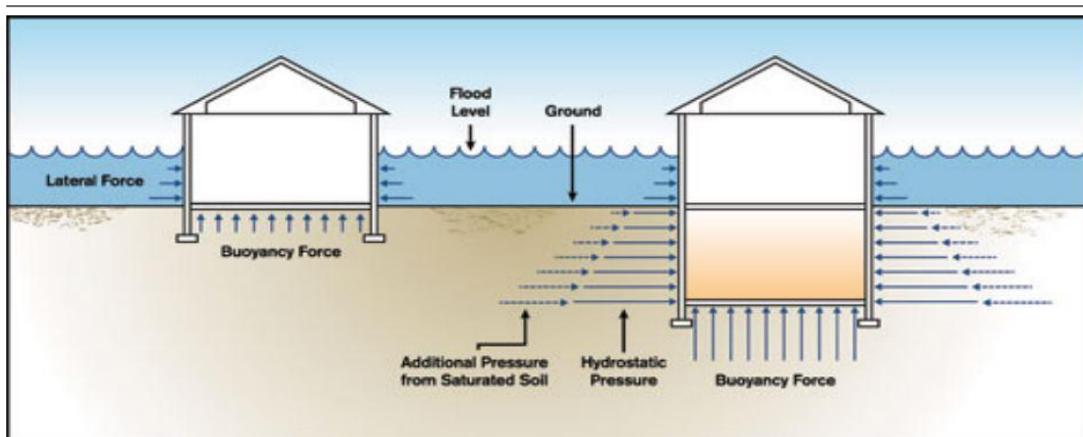
### 1. HIGH PERIMETER WALL :

High perimeter wall to be installed to prevent the flooding water to breach the perimeter line .The height of the wall will help keep the rose water level from overflowing



### 2. FLOOR RESISTANT TO HYDROSTATIC PRESSURE

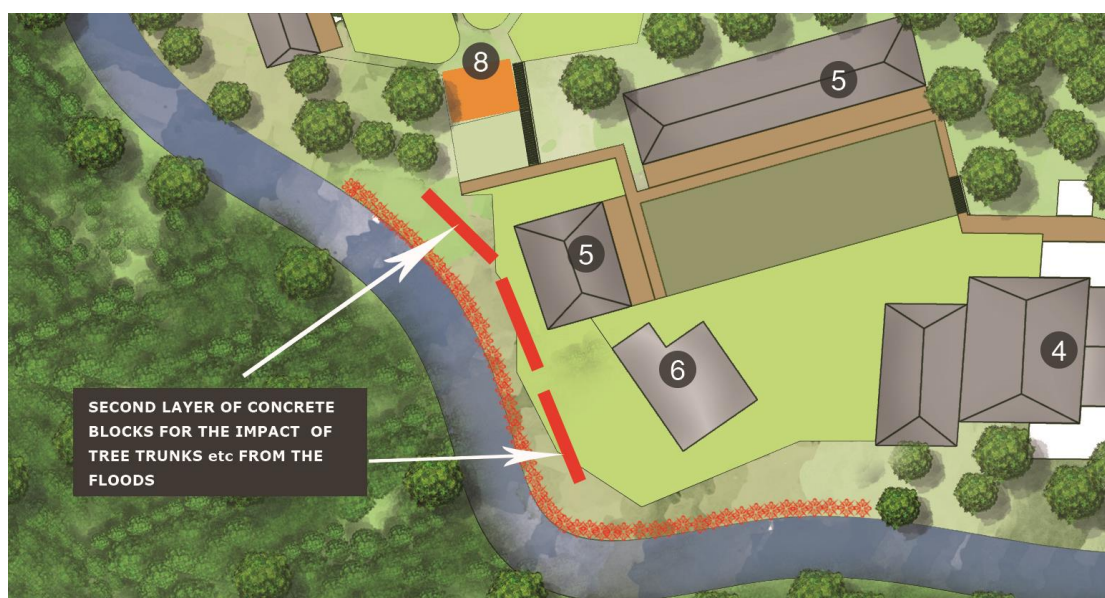
New construction must be installed with special hydrostatic pressure floors. To resist buckling from rising groundwater.



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### 3.IMPACT PROTECTION:

Second layer of concrete blocks to be added to strengthened the vulnerable breaching point and provide protection by the strong impacts by tree trunks and other heavy objects carried by the flooding water with great speeds.



### 4. FLOODGATES :

Flood gates to be installed at every door opening at the hotel building. This will help in preventing the water from entering the building upto some extent incase the other perimeters are breached.



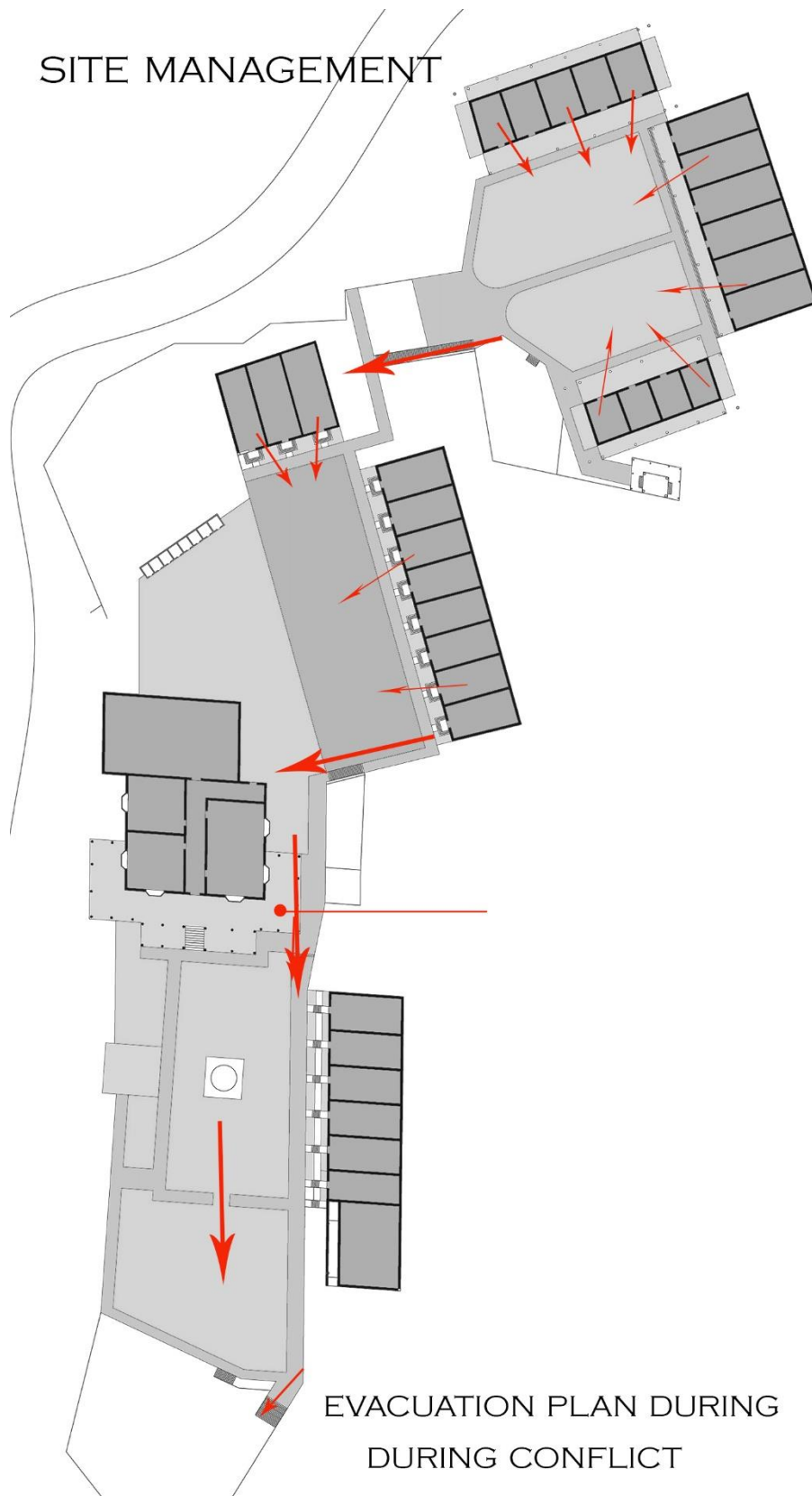
## 7 FIRST AID IN ACTION:

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- Relocation of the furnace and hot water heating system to the attic.
- Replacement of electrical wiring with water resistant cable to withstand floodwaters.
- Replacement of interior insulation and wallboard with water resistant materials.
- Inclusion of drain notches in the sill plates.
- Replacement of the heaters with cast iron radiators.
- Replacement of the kitchen components with flood-proof parts.
- Construction of a stairway between the lower and upper floors, and the attic, where the furnace had been relocated.
- Installation of watertight barriers on windows and doors on a temporary basis to keep out water during a flood. The barrier system is designed for a maximum flood water depth of seven feet.
- Individual planks, weighing approximately 15 pounds each, are carried to and installed at each window or door site.
- Sealing of holes made for utilities - electricity, telephone, and fuel – where water can enter.
- Installation of a backflow valve in the septic line to prevent flooding from the drainage system.
- Installation of pop-up valves in the floor to eliminate damage from water pressure under the floor to prevent it from buckling.
- Installation of a sump pump to collect water entering from the pop-up valves and leaks in the barriers and seals on the windows and doors.
- Installation of a discharge pump to help remove water during a flood.



## 8 SITE MANAGEMENT PLAN:



## 9 MATERIALS / MASONRY SPECIFICATION AND DETAILS:

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### 9.1 MATERIALS:

The white marbles for this structure were brought from the marble quarry in Jaipur in India, the same quarry from which the Taj Mahal's marble came from.

Its bronze, used in the ceiling, was brought from Belgium, and its artisan from Turkey. Its ceiling fans and its electrical equipment were imported from England, and they're all still working.



White marble



Bronze on the ceiling.

## 9.2 MASONRY:

It was the first building in the entire region constructed on Victorian architecture. It has a multilayered roof, starting from a bronze layer to the wooden layer of deodar tree, lime layer, mud layer, and again a deodar layer with an iron layer to the outer top.

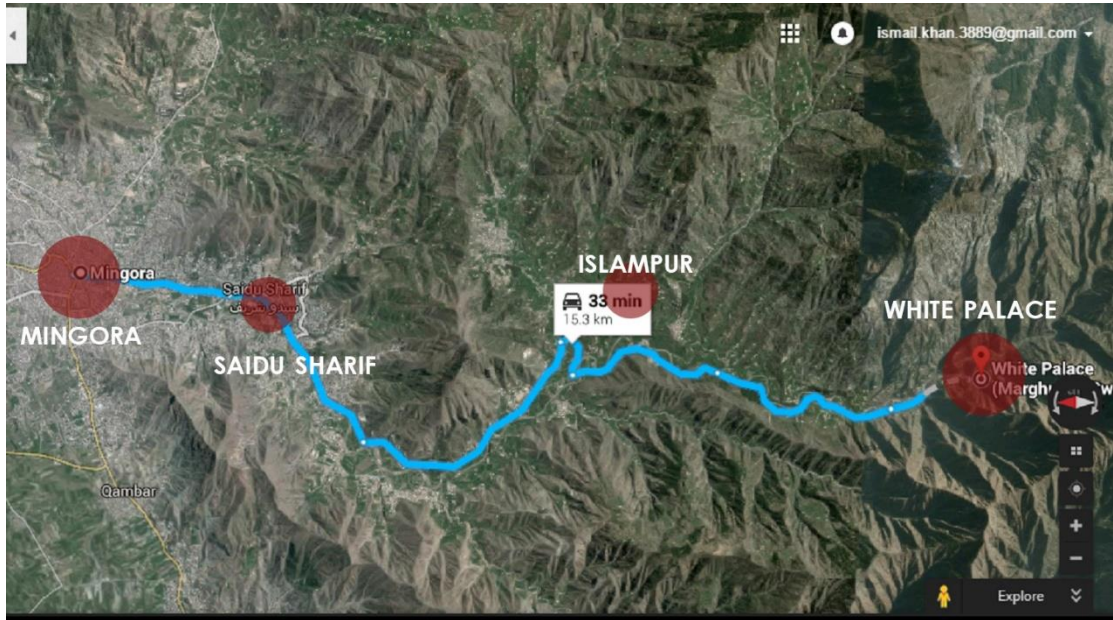


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## 10 DOCUMENTATION AND RECORDING PROCESS:

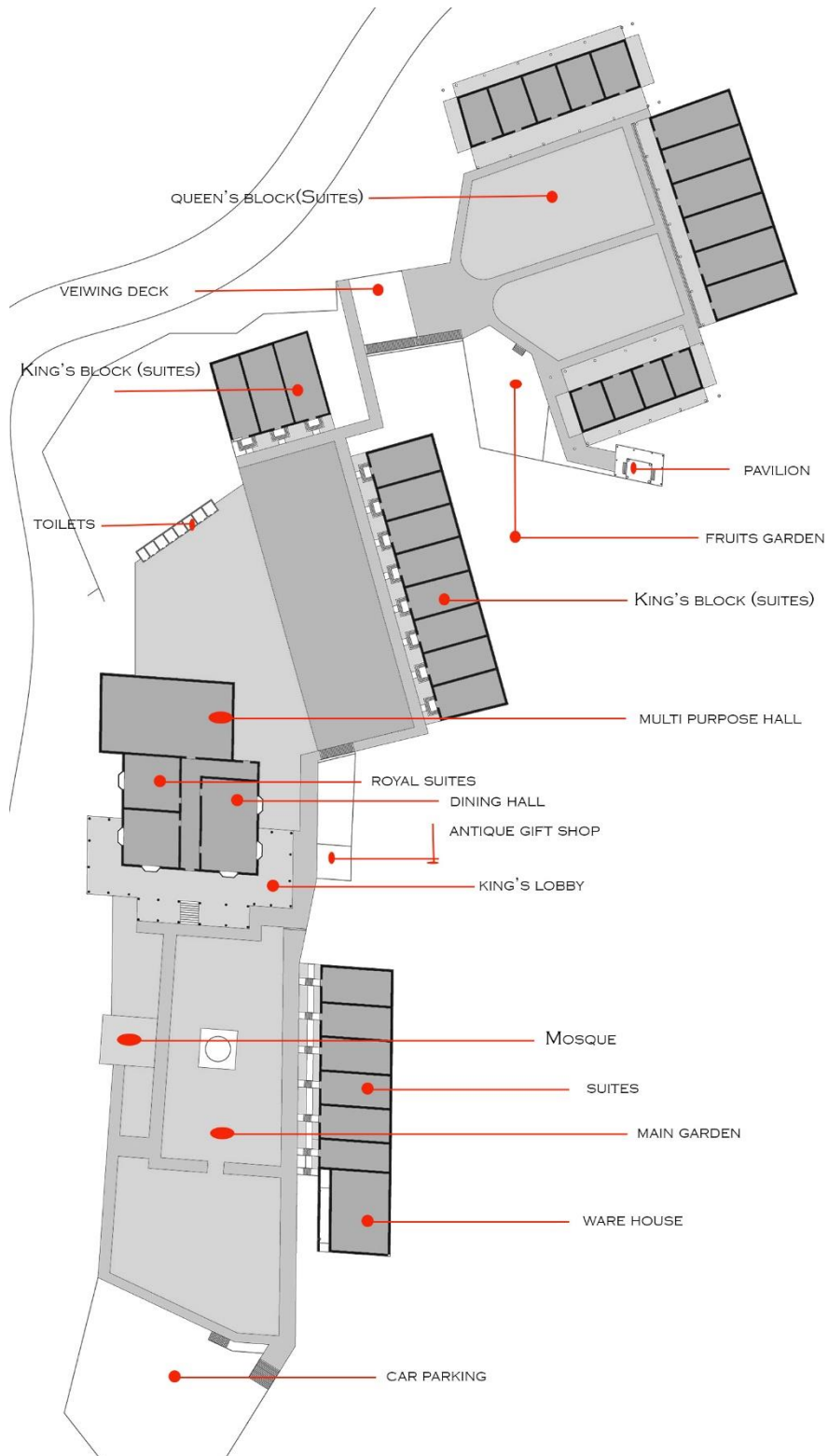
### 10.1 KEY PLAN:



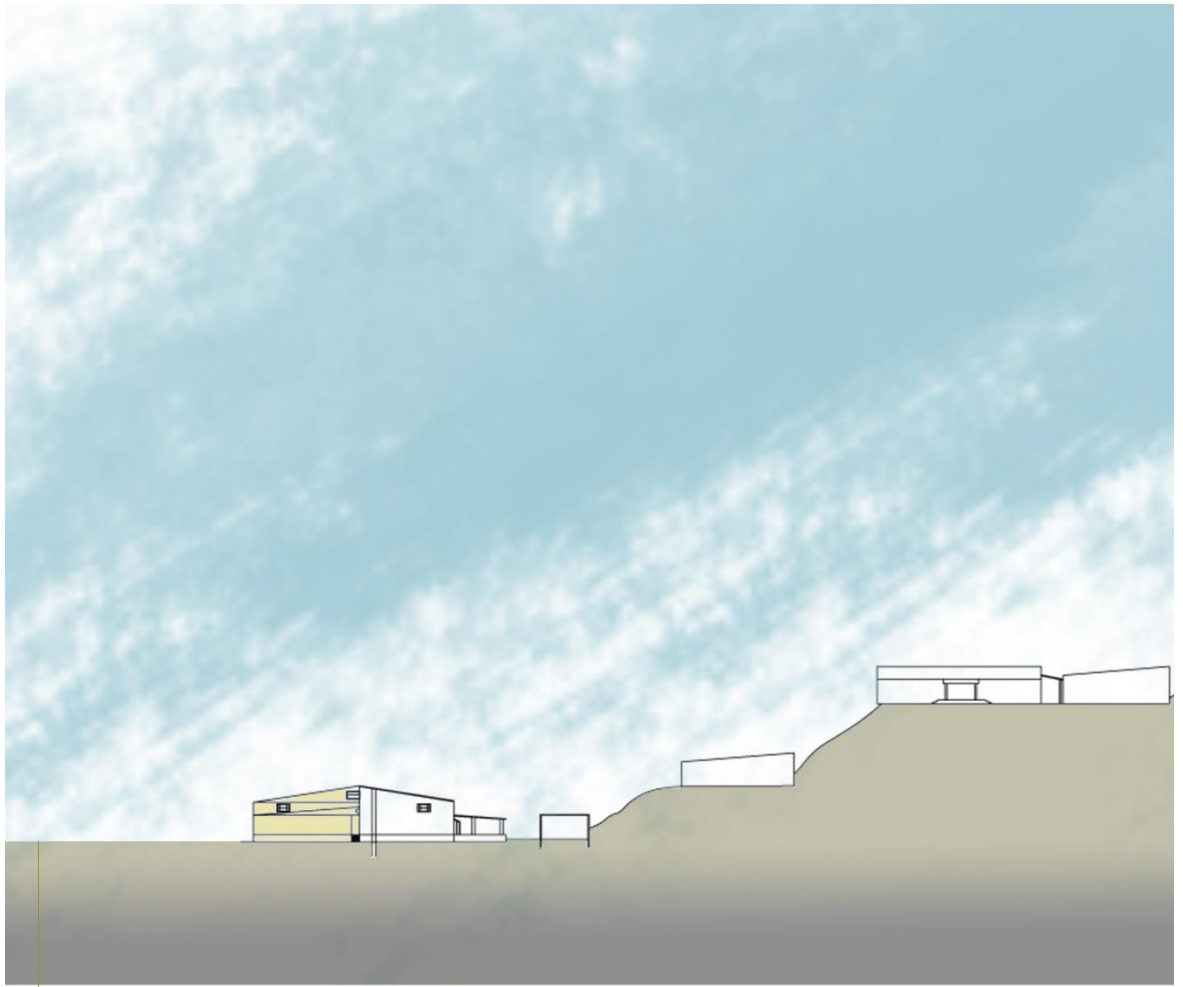
White palace is located at 7000ft above sea level on marghazar hill which is situated About 13km away from Saidu Sharif swat on the route of Islampur.



10.2 PLANS:



### 10.3 SECTIONAL ELEVATION:



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#### 10.4 3D VIEWS.



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## 11 CONCLUSION:

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We conclude from the whole report that, white palace is one of the heritage gifted from the ancestors of swat (wali-e-swat). Which is recently threaten by the natural factors like floods in 2010. Therefore to preserve the last heritage of swat we come across with a mitigation plan, we studied a similar type of situation in the literature review from which we learnt that the following 5 mitigation procedures can solve the problem. Which includes:

- Floor resistant to hydrostatic pressure,
- High perimeter wall,
- Impact protection,
- Water resistant materials and
- Floodgates.

During conflict situation the building needs first aid, and protection of its assets, and moving the ancient artifacts, which includes guns, swords, paintings, jewelries, and handicrafts, to a safer location.

The materials and the fixtures which are imported, needs proper attention of the government and the local authorities of the region.



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